CLAIMS

1. A rolling bearing unit with an encoder comprising:

a stationary ring made from a magnetic material which does not rotate in use;

a rotating ring made from a magnetic material which rotates in use;

a plurality of rolling elements which are arranged between a rotational raceway surface formed on the rotating ring, and a fixed raceway surface formed on the stationary ring; and

an encoder which is supported on a part of the rotating ring concentrically with the rotating ring, the encoder comprising a multipolar magnet in an annular shape wherein south poles and north poles are arranged alternately around the circumferential direction,

wherein component members made from a magnetic material, constituting the rolling bearing unit including the stationary ring and the rotating ring are demagnetized before the encoder is supported on the rotating ring.

2. A rolling bearing unit with an encoder according to claim 1, wherein magnetic flux densities after demagnetization of the component members made from a magnetic material constituting the rolling bearing unit are 0.5mT or less for each of component members, and 2mT or less for the whole of the

component members when assembled into the rolling bearing unit.

3. A rolling bearing unit with an encoder according to claim 1, wherein a density of a magnetic flux coming from a detection surface of the encoder is 10mT or more.

4. A rolling bearing unit with an encoder according to claim 2, wherein a density of a magnetic flux coming from a detection surface of the encoder is 10mT or more.

5. A manufacturing method for a rolling bearing unit with an encoder, for manufacturing a rolling bearing unit with an encoder according to any one of claim 1 through claim 4, comprising demagnetizing respective component members constituting the rolling bearing unit with an encoder, then assembling these component members to make the rolling bearing unit, and then assembling the encoder onto the rotating ring of the rolling bearing unit.

6. A manufacturing method for a rolling bearing unit with an encoder, for manufacturing a rolling bearing unit with an encoder according to any one of claim 1 through claim 4, comprising assembling respective component members to constitute a rolling bearing unit, then demagnetizing the rolling bearing unit, and then assembling the encoder onto the rotating ring of the rolling bearing unit.